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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,276

10/27/2003

William E. M. Jones

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EXAMINER

ECHELMEYER, ALIX ELIZABETH

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

05/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/694,276	Applicant(s) JONES, WILLIAM E. M.	
	Examiner Alix Elizabeth Echelmeyer	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-14, 32 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-14, 32 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 6, 2008 has been entered.
2. Claims 1 and 32 have been amended. Claim 34 has been added. Claim 33 has been cancelled; claims 9, 10 and 15-31 were previously cancelled. Claims 1-8, 11-14, 32 and 34 are pending and are rejected for the reasons given below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 5,841,355) in view of Datillo (US 4,978,592).

Bae et al. teach an electrolyte level sensing method for use with a wet battery with automatic means for refilling electrolyte (abstract). The sensor sends feedback concerning the electrolyte level to a microprocessor, and when the electrolyte is below a

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predetermined level, the microprocessor injects distilled water into the cells (column 2 lines 7-16).

Solenoid valves are used to control water flow in the conduit (column 3 lines 54-58, 64-66).

As for claims 2, 3 and 34, each cell in the system has a sensor and valve (Figure 4; column 3 lines 58-60).

With regard to claims 4 and 5, the microprocessor controls the solenoid valves that control water flow in the conduit (Figure 4 ref. (18); column 3 lines 54-58, 64-66).

As for claims 6-8, Bae et al. teach a water injector having a wire-controlled coupler (Figure 3; column 2 line 64 - column 3 line 11). The wire couple acts as the biasing member, and since it is connected through a wire to the microprocessor, the microprocessor would have information on whether the injector was coupled or not.

Regarding claim 32, since Bae et al. teach all of the components discussed above (not including the claimed electrolyte level sensor, see below), and a method for sensing the electrolyte level, one of ordinary skill in the art would recognize that a method of filling the electrolyte is inherently taught.

The electrolyte level sensor of Bae et al. operates by sensing the concentration of the electrolyte (column 1 lines 9-14) instead of measuring the level based on the top surface of the electrolyte.

Datillo teaches a sensor probe for emersion into the electrolyte of a wet lead acid battery cell. The probe measures the level of electrolyte to ensure that the electrolyte covers the battery plates, and is connected to an electrical circuit (abstract; column 2 lines 40-42; column 9 lines 2-6).

It would be desirable to use the sensor of Datillo in a lead acid battery having the automatic filling system of Bae et al. instead of the concentration sensor of Bae et al. to ensure that the battery plates are covered; the sensor of Bae et al. may fail to ensure that the plates are covered, since it measures concentration but not physical level.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the sensor of Datillo in a lead acid battery having the automatic filling system of Bae et al. instead of the concentration sensor of Bae et al. to ensure that the battery plates are covered.

5. Claims 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. in view of Datillo as applied to claim 1 above, and further in view of Parise (US 6,653,002) and Gutlich et al. (US Patent 4,283,467).

The teachings of Bae et al. and Datillo as discussed above are incorporated herein.

Bae et al. in view of Datillo fail to teach charging sensors or an air pump.

Parise teaches a charging sensor to monitor voltage levels within each cell (column 7 line 54 - column 8 line 22). Such a sensor would be capable of determining

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whether the battery was being charged, since it could determine whether the amount of charge had increased or decreased as a function of time.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a charge sensor such as the sensor of Parise in the battery of Bae et al. in view of Datillo since it would allow the microprocessor to determine the state of charge or whether the battery was charging.

Bae et al. in view of Datillo and Parise fail to teach an air pump.

Gutlich et al. teach a battery that includes transport tubes immersed in the electrolyte and connected to compressed air ducts. The air is mixed with the electrolyte to promote circulation (abstract).

Gutlich et al. further teach that mixing yields improved capacity and useful life for the battery (abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mix the electrolyte of the battery of Bae et al. in view of Datillo and Parise using air as taught by Gutlich et al. in order to improve the capacity and useful life of the battery.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. in view of Datillo, Parise and Gutlich et al. as applied to claim 11 above, and further in view of Saaski et al. (S 6,265,100).

The teachings of Bae et al., Datillo, Parise and Gutlich et al. as discussed above are incorporated herein.

Bae et al. in view of Datillo, Parise and Gutlich et al. fail to teach a Hall Effect charging sensor.

Saaski et al. teach a charging sensor for use in a battery that may also be used as a switch to turn off or on the charging function. The sensor/switch is a Hall Effect device (column 8 lines 31-38).

It would have been obvious to use the Hall Effect sensor of Saaski et al. in the battery of Bae et al. in view of Datillo, Parise and Gutlich et al. since it is effective both as a sensor and a switch.

Response to Arguments

7. Applicant's arguments, see Remarks, filed March 6, 2008, with respect to the rejection of September 10, 2007 have been fully considered and are persuasive in light of the amendments. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made, see above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is (571)272-1101. The examiner can normally be reached on Mon-Fri 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alix Elizabeth Echelmeyer
Examiner
Art Unit 1795

aee

/Susy N Tsang-Foster/
Supervisory Patent Examiner, Art Unit 1795